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New theory given for Soviet blast

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NEW YORK — Western belief that a nuclear-dump explosion created a "vast, barren wasteland" near the Ural Mountains has been challenged by a new study that blames the contamination on decades of careless Soviet air and water pollution.

For years, the "Kyshtym disaster" in the winter of 1957-58 has been referred to in the West as the worst nuclear accident in history. Dissident Soviet scientists contend that the blast left hundreds dead from radiation and leveled as much as 1,000 square miles of land.

But a Los Alamos National Laboratory team, using classified CIA and military documents, now contends that there was no nuclear explosion and that the Soviet government caused the contamination by "carelessness and blatant disregard for their people or their surroundings."

The researchers said that the explosion theory needed to be "exam-

ined impartially" because Kyshtym was "no longer merely an intriguing enigma; the allegations surrounding it bear heavily on the whole question of nuclear-waste disposal in the United States."

The Soviet government has never commented on Kyshtym.

The report said that contamination east of the city of Kyshtym in the southern Urals is due chiefly to many years of discharging polluted water from nuclear reactors and chronic "acid rain" produced by a mix of high humidity and nitrogen oxide emissions from a plutonium-enrichment plant, which would explain reports of dead trees and grass.

If the Soviets, in the rush to produce plutonium, did not adequately cool irradiated fuel elements, "the off-gases would also contain appreciable amounts of radioactive iodine," the researchers added.

Improper ground disposal of radioactive liquid wastes was cited as another possible cause of contamina-

tion. Researchers did not rule out the possibility that a chemical explosion eventually occurred from the compacted storage of ammonium nitrate and hexone, a flammable solvent, among clay particles at the dried-out bottom of an artificial lake used to store nuclear wastes.

The three-year study, commissioned by the Department of Energy, concludes that although a contaminated area does exist, it is far smaller than originally believed.

The sources and documentation for the Los Alamos findings were not revealed because they are classified as secret, according to laboratory spokesman Jim Breen.

The Los Alamos team started with the supposition that the Soviets' first plutonium-production facility, built in the late 1940s near Kyshtym, was modeled after the wartime U.S. plutonium complex in Hanford, Wash.

According to the report:

A similar, but less carefully regulated, method of cooling was probably employed, and used water was pumped into an artificial lake that flowed into the Techa River.

By 1953, the lake was being fed from three reactors and "had become dangerously radioactive."

Citing classified references to "the leaky reactor at Kyshtym," the report said existence of the "chronic, water-borne source of radioactive contamination" was proof that the river valley was being contaminated "long before any suggested Kyshtym disaster date."

Breen confirmed the existence of a more detailed, classified version of the public report. He said that the authors of the study were given "wide access to classified material" from more than one federal agency.

The authors, chemist Diane M. Soran and physicist Danny B. Stillman, refused to be interviewed for fear they might unintentionally reveal classified material, Breen said, adding that both possess high-level security clearances.